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EXAMINER

ALBERTALLI, BRIAN LOUIS

ART UNIT PAPER NUMBER

2655

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/008,826 | Applicant(s) DOMER, STEVEN M. | |
| | Examiner Brian L Albertalli | Art Unit 2655 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/13/01</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "37" has been used to designate both a read/write input and a programmable attenuator. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rasmusson et al. (U.S. Patent 5,835,851).

In regard to claim 1, Rasmusson et al. discloses a method for providing a comfort noise signal in a telephone, said method comprising the steps of:

recording for a predetermined period the actual background noise occurring during a telephone call to produce a recorded signal (when no human speech is detected, noise buffer, Fig. 2, 211, is filled with a speech frame representing the background noise, column 5, lines 54-57);

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playing back at least a portion of the recorded signal as comfort noise during the same telephone call (noise stored in buffer 211 is added to the attenuated speech frame as comfort noise, column 6, lines 32-38 and column 4, lines 42-45).

In regard to claim 2, Rasmusson et al. discloses:

dividing the recorded signal into segments (samples);

reading the segments in random order (samples from the noise buffer 211 are added to the attenuated speech frame in a quasi-random order, see Fig. 5b and column 6, lines 32-44).

In regard to claim 3, Rasmusson et al. discloses the recorded signal is digitally recorded in addressable memory capable of storing n bytes of data and said playing back step includes the steps of:

generating a start address (random number generator 209 is used to select the starting point in the buffer, column 6, lines 32-44. A digital memory is inherently addressable);

applying the start address to the addressable memory; reading m bytes from memory, wherein $m < n$. Rasmusson et al. discloses the noise buffer 211 contains 160 samples (corresponding with m , column 6, lines 38-41, Fig. 5a). The buffer is then emptied from sample 3, to sample 159 (corresponding with n , column 6, lines 41-44).

In regard to claim 4, Rasmusson et al. discloses generating a random number (random generator 209, column 6, lines 35-38); and
using at least a portion of the random number to create the start address (random pointer is used as start address, Fig. 5a, column 6, lines 38-44).

In regard to claim 5, Rasmusson et al. discloses the steps recited in claim 3 are repeated for as long as desired but terminate with the telephone call (Fig. 4, states S1B through S10B are repeated, closing switch 208 repeats the steps recited in claim 3, column 5, lines 63-66 and column 6, lines 29-32. The steps will necessarily terminate when the call is terminated).

In regard to claim 8, Rasmusson et al. discloses attenuating the actual background noise (actual background noise stored in noise buffer 211 is attenuated by attenuator 212, column 6, lines 15-17); and

combining the played back portion with the attenuated actual background noise (the attenuated actual background noise is added to the played back portion by noise adder 204, column 6, lines 15-17).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson et al.

In regard to claim 10, Rasmusson et al. discloses a telephone circuit having digital data bus (Fig. 2, interconnects between elements in echo reduction processor 102) for audio signals and having a comfort noise generator (102) coupled between a microphone (101) and a speaker output (104), the telephone circuit characterized by an improved comfort noise generator comprising:

random access memory (noise buffer 211, column 5, lines 54-57);

a means for determining whether data is written to said memory or read from said memory (switches 205 and 208, column 5, lines 54-57 and column 6, lines 29-32);

wherein data lines are coupled to said data bus (output from speech frame collector 201 is coupled to noise buffer 211 to copy data from the speech frame collector 201 to the noise buffer 211).

wherein the random access memory is used to store data representing a predetermined period the actual background noise occurring during a telephone call and to play back at least a portion of said data as comfort noise during the same telephone call (column 5, lines 54-57 and column 6, lines 29-32).

Furthermore, Rasmusson et al. discloses that when filling the noise buffer, a random number is used as a start address, then the buffer is filled sequentially from that address (column 6, lines 41-44).

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Rasmusson et al. is silent as to the details of how the random access memory (noise buffer 211) is addressed and controlled.

Official notice is taken that it is notoriously well known and recognized in the art that random access memory includes address lines, data lines, and control lines, and that the control lines determine whether data is written to memory or read from memory. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Rasmusson et al. to include address lines, data lines, and control lines and to determine whether data was to be written or read from memory with the control lines, since these are necessary to control standard random access memories which are cheap and readily available.

Furthermore, official notice is taken that it is notoriously well known and recognized in the art that counters can be used to generate addresses for random access memories by counting up from a specified input address, and that counters include data inputs and clock inputs. It would have been obvious to one of ordinary skill in the art at the time of invention to further modify Rasmusson et al. to include a counter coupled to the address lines, the counter having a data input and clock output, to store the data in the random access memory in sequential order starting from a random address, since said cheap and readily available standard counters include data input and clock output and are commonly used to generate addresses for a random access memory.

In regard to claim 11, Rasmusson et al. discloses a random number generator coupled to the memory for generating a start address for reading data from said memory (random generator 209, column 6, lines 35-44 and Fig. 5a).

Rasmusson et al. does not explicitly disclose that the random number generator is coupled to address lines, but, as discussed in reference to claim 10, above, the modification of Rasmusson et al. would couple the random number generator to the address lines.

6. Claims 6, 7, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson et al., in view of Morel (U.S. Patent 6,108,623).

In regard to claim 6, Rasmusson et al. does not disclose generating a random noise signal; and

combining the played back portion with random noise signal.

Morel discloses that when creating comfort noise, generating white noise and combining it with characteristics of the actual background noise improves the quality of the comfort noise (column 2, line 26 through column 3, line 3).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Rasmusson et al. to generate a random noise signal and combine it with the recorded background noise in order to improve the quality of the comfort noise, as taught by Morel (column 2, line 66 through column 3, line 3).

In regard to claims 7 and 9, Rasmusson et al. discloses attenuating the played back portion (by attenuator 212, column 6, lines 15-17); and

combining it with the played back portion (by noise adder 204, column 6, lines 15-17).

Rasmusson et al. does not disclose generating a random noise signal;

attenuating the random noise signal; and

combining the attenuated played back portion with the attenuated random noise signal.

Morel discloses that when creating comfort noise, generating white noise and combining it with characteristics of the actual background noise improves the quality of the comfort noise (column 2, line 26 through column 3, line 3).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Rasmusson et al. to generate a random noise signal and combine it with the attenuated played back portion and the attenuated actual background noise in order to improve the quality of the comfort noise, as taught by Morel (column 2, line 66 through column 3, line 3).

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to attenuate the random noise signal, since, as taught by Rasmusson et al., noise must be attenuated so that it is at the proper energy level in the played back signal (column 6, lines 15-17).

In regard to claim 12, Rasmusson et al. does not disclose a white noise generator; and

a summation circuit coupled to said white noise generator and to said memory for combining the white noise with the recorded data to produce a comfort signal.

Morel discloses that when creating comfort noise, generating white noise and combining it with characteristics of the actual background noise improves the quality of the comfort noise (column 2, line 26 through column 3, line 3).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Rasmusson et al. to include a white noise generator and a summation circuit coupled to the white noise generator and to the memory for combining the white noise with the recorded data to produce a comfort signal, in order to improve the quality of the comfort noise, as taught by Morel (column 2, line 66 through column 3, line 3).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wood et al. (U.S. Patent 6,643,617) discloses a method of generating comfort noise that generates a random number to read noise packets from a circular buffer. Williams (U.S. Patent 4,965,822) discloses a comfort noise generator for a speakerphone that records the background noise. Aryiama (U.S. Patent 6,625,284) discloses a system that combines randomly generated noise with aspects of the actual background noise to create comfort noise. Texas Instruments (bq4010 Datasheet)

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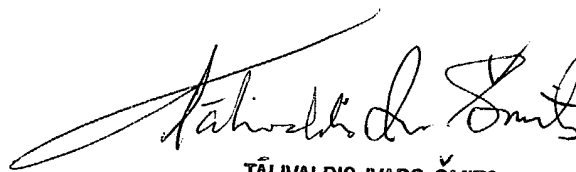
discloses a typical random access memory configuration. Texas Instruments (SN54LS592 Datasheet) discloses a typical counter configuration.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Albertalli whose telephone number is (703) 305-1817. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703) 305-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 9/14/04



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PRIMARY EXAMINER